Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S2	131	network same topology same discovery same snmp	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/26 06:12
S3	1	network same topology same discovery same snmp same zone	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR .	ON	2007/06/26 06:23
S6	2	S4 same S5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/26 06:24
S5	1920	identif\$4 same snmp\$	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/26 06:24
S7	1612	divid\$4 same zone same network	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/26 06:25
S4	92501	divid\$4 same zone	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/26 06:25
S10	6075	(709/223).CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/26 06:31

S14	74582	eric.in.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/26 06:32
S13	78	pulsipher.in.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/26 06:32
S12	31025	max.in.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/26 06:32
S11	527	knees.in.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/26 06:32
S9	1643	(370/254).CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/26 06:32
S18	52334	kevin.in.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/26 06:33
S17	135970	smith.in.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/26 06:33

S16	10821	gabriel.in.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/26 06:33
S15	218	wechter.in.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR .	ON	2007/06/26 06:33
S25	1	S20 S21 S22 S23	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2007/06/26 06:34
S23	2957	S17 and S18	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/26 06:34
S20	6	S11 and S12	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/26 06:34
S21	26	S13 and S14	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON .	2007/06/26 06:35
S22	7	S15 and S16	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/26 06:40

S26	43348	hewlett-packard.as.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/26 07:41
S30	51	("5561769" "5568605" "5651006" "5655081" "5689645" "5706508" "5758083" "5774669").PN. OR ("5948055").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/06/26 07:43
S29	2	("5948055").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/26 07:43
S27	16	S23 and S26	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/26 07:43
S8	34	divid\$4 same zone same network same topology	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/26 08:01
S33	7025	S31 same S32	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/26 08:03
S32	140220	(network internet lan wan) with (zone region sub\$network domain group)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/26 08:03

S31	59497	(network internet lan wan) with (topology map\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/26 08:03
S34	44	S33 same snmp	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/26 08:04
S35	41	S34 not (S30 or S8)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/26 09:31
S36	77303	(discover\$4 generat\$4 creat\$4 compil\$4) with (topology map)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/26 09:32
S37	196	S36 same (subnet sub\$net)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/26 09:33
S39	217	automatic\$4 discover\$4 topolog\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	WITH	ON	2007/06/26 11:01
S38	193	S37 not S35	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/26 11:01

S41	91	S39 and snmp	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	WITH	ON	2007/06/26 12:03
S40	20	S39 same snmp	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	WITH	ON	2007/06/26 12:03
S42	71	S41 not S40	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	WITH	ON	2007/06/26 12:05
S44	2	("5850397").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/26 13:38
S43	2	("5185860").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/26 13:38
L6	24	("5606664" "5684796" "5684959" "5708772").PN. OR ("5850397").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/06/27 06:24
S1	1359	network same topology same discovery	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/27 09:07

L8	981	return adj2 database	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/27 09:07
L7	125	dispatch adj2 database	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/27 09:07
L10	1	18 and 17	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR .	ON	2007/06/27 09:08
L9	0	18 same 17	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/27 09:08
L11	474	list same file same database same agent	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR .	ON	2007/06/27 09:09
L12	140	I11 same (network internet)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/27 09:45



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Developments in simulation and instrumentation: Topology discovery for public IPv6

Daniel G. Waddington, Fangzhe Chang, Ramesh Viswanathan, Bin Yao

July 2003 ACM SIGCOMM Computer Communication Review, Volume 33 Issue 3

Publisher: ACM Press

Full text available: pdf(182.34 KB) Additional Information: full citation, abstract, references, index terms

In just three decades the Internet has grown from a small experimental research network into a complex network of routers, switches, and hosts. Understanding the topology of such large scale networks is essential to the procurement of good architectural design decisions, particularly with respect to address allocation and distribution schemes. A number of techniques for IPv4 network topology already exist. Of these ICMP-based probing has shown to be most useful in determining router-level topolog ...

Keywords: IPv6, IPv6 network topology discovery, network measurement, network probing, topology inference

2 Routing, coverage, and topology control: Throughput and energy efficiency in



topology-controlled multi-hop wireless sensor networks

Li (Erran) Li, Prasun Sinha

September 2003 Proceedings of the 2nd ACM international conference on Wireless sensor networks and applications WSNA '03

Publisher: ACM Press

Full text available: mpdf(199.60 KB)

Additional Information: full citation, abstract, references, citings, index <u>terms</u>

In the context of multi-hop wireless networks, various topology control algorithms have been proposed to adapt the transmission range of nodes based on local information while maintaining a connected topology. These algorithms are particularly suited for deployment in sensor networks which typically consist of energy constrained sensors. Sensor nodes should support power adaptation in order to use the benefits of topology control for energy conservation. In this paper, we design a framework for ...

Keywords: ad-hoc networks, sensor networks, topology control, wireless networks

Ad hoc and sensor networks: Topology control for wireless sensor networks



Jianping Pan, Y. Thomas Hou, Lin Cai, Yi Shi, Sherman X. Shen

September 2003 Proceedings of the 9th annual international conference on Mobile computing and networking MobiCom '03

Publisher: ACM Press

Full text available: pdf(297.02 KB)

Additional Information: full citation, abstract, references, citings, index

terms

We consider a two-tiered Wireless Sensor Network (WSN) consisting of sensor clusters deployed around strategic locations and base-stations (BSs) whose locations are relatively flexible. Within a sensor cluster, there are many small sensor nodes (SNs) that capture, encode and transmit relevant information from the designated area, and there is at least one application node (AN) that receives raw data from these SNs, creates a comprehensive local-view, and forwards the composite bit-stream toward ...

Keywords: network lifetime, topology control, wireless sensor networks

Topology & MAC: The lit K-neigh protocol for symmetric topology control in ad hoc



networks

Douglas M. Blough, Mauro Leoncini, Giovanni Resta, Paolo Santi

June 2003 Proceedings of the 4th ACM international symposium on Mobile ad hoc networking & computing MobiHoc '03

Publisher: ACM Press

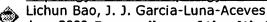
Full text available: pdf(343.90 KB)

Additional Information: full citation, abstract, references, citings, index terms

We propose an approach to topology control based on the principle of maintaining the number of neighbors of every node equal to or slightly below a specific value k. The approach enforces symmetry on the resulting communication graph, thereby easing the operation of higher layer protocols. To evaluate the performance of our approach, we estimate the value of k that guarantees connectivity of the communication graph with high probability. We then define k-Neigh, a fully distr ...

Keywords: connectivity, energy consumption, symmetric range assignment, topology control, wireless ad hoc networks

Topology & MAC: Topology management in ad hoc networks



June 2003 Proceedings of the 4th ACM international symposium on Mobile ad hoc networking & computing MobiHoc '03

Publisher: ACM Press

Full text available: pdf(450,73 KB)

Additional Information: full citation, abstract, references, citings, index terms

The efficiency of a communication network depends not only on its control protocols, but also on its topology. We propose a distributed topology management algorithm that constructs and maintains a backbone topology based on a minimal dominating set (MDS) of the network. According to this algorithm, each node determines the membership in the MDS for itself and its one-hop neighbors based on two-hop neighbor information that is disseminated among neighboring nodes. The algorithm then ensures that ...

Keywords: ad hoc networks, connected dominating set, minimum dominating set

Ad hoc networks: On local algorithms for topology control and routing in ad hoc





<u>networks</u>

Lujun Jia, Rajmohan Rajaraman, Christian Scheideler

June 2003 Proceedings of the fifteenth annual ACM symposium on Parallel algorithms and architectures SPAA '03

Publisher: ACM Press

Full text available: pdf(249.05 KB)

Additional Information: full citation, abstract, references, citings, index terms

An ad hoc network is a collection of wireless mobile hosts forming a temporary network without the aid of any fixed infrastructure. Indeed, an important task of an ad hoc network is to determine an appropriate topology over which high-level routing protocols are implemented. Furthermore, since the underlying topology may change with time, we need to design routing algorithms that effectively react to dynamically changing network conditions. The aim of this paper is to explore the limits of commun ...

Keywords: ad hoc wireless networks, adversarial model, competitive analysis, distributed algorithms, mobile computing and communication, routing, spanners

7 Virtual-topology adaptation for WDM mesh networks under dynamic traffic



Publisher: IEEE Press

Full text available: pdf(585.44 KB) Additional Information: full citation, abstract, references, index terms

We present a new approach to the virtual-topology reconfiguration problem for a wavelength-division-multiplexing-based optical wide-area mesh network under dynamic traffic demand. By utilizing the measured Internet backbone traffic characteristics, we propose an adaptation mechanism to follow the changes in traffic without a priori knowledge of the future traffic pattern. Our work differs from most previous studies on this subject which redesign the virtual topology according to an expect ...

Keywords: WDM, dynamic traffic, mesh network, mixed-integer linear program (MILP), optical network, virtual-topology reconfiguration

Group communication in multichannel networks with staircase interconnection



topologies

P. K. McKinley, J. W. S. Liu

August 1989 ACM SIGCOMM Computer Communication Review , Symposium proceedings on Communications architectures & protocols SIGCOMM '89, Volume 19 Issue 4

Publisher: ACM Press

Full text available: pdf(1.25 MB)

Additional Information: full citation, abstract, references, citings, index terms

Recently, multichannel networks composed of several parallel, medium-speed channels multiplexed on a single high-speed medium have been proposed as a practical way to harness the high bandwidths of optical fibers. In order to limit the cost of network interfaces, a partially-connected multichannel network allows each node access to only a proper subset of the channels, its channel set. Staircase interconnection topologies constitute a family of partially-connected multichannel networks in w ...

9 Network topology generators: degree-based vs. structural



Hongsuda Tangmunarunkit, Ramesh Govindan, Sugih Jamin, Scott Shenker, Walter Willinger August 2002 ACM SIGCOMM Computer Communication Review, Proceedings of the 2002 conference on Applications, technologies, architectures, and

protocols for computer communications SIGCOMM '02, Volume 32 Issue 4

Publisher: ACM Press

Full text available: pdf(271.45 KB)

Additional Information: full citation, abstract, references, citings, index terms

Following the long-held belief that the Internet is hierarchical, the network topology generators most widely used by the Internet research community, Transit-Stub and Tiers, create networks with a deliberately hierarchical structure. However, in 1999 a seminal paper by Faloutsos et al. revealed that the Internet's degree distribution is a power-law. Because the degree distributions produced by the Transit-Stub and Tiers generators are not power-laws, the research community has largely dismissed ...

Keywords: degree-based generators, hierarchy, large-scale structure, network topology, structural generators, topology characterization, topology generators, topology metrics

10 Network topology management in a mobile-switch ATM network: dynamic partition algorithms



Sheng-Tzong Cheng, C. Chen, C. Li, Chia-Mei Chen

March 2002 International Journal of Network Management, Volume 12 Issue 2

Publisher: John Wiley & Sons, Inc.

Full text available: pdf(350.26 KB) Additional Information: full citation, abstract, references, index terms

In this paper we propose two partition algorithms. The main policy of the algorithms is finding out the area(s) in which mobile switches congregate within a peer group.

11 Technical columns: Topology control and routing in ad hoc networks: a survey



Rajmohan Rajaraman

June 2002 ACM SIGACT News, Volume 33 Issue 2

Publisher: ACM Press

Full text available: pdf(1.38 MB) Additional Information: full citation, abstract, references, citings

An ad hoc wireless network, or simply an *ad hoc network*, consists of a collection of geographically distributed nodes that communicate with one other over a wireless medium. An ad hoc network differs from cellular networks in that there is no wired infrastructure and the communication capabilities of the network are limited by the battery power of the network nodes. One of the original motivations for ad hoc networks is found in military applications. A classic example of ad hoc networkin ...

12 Maximum likelihood network topology identification from edge-based unicast



measurements

Mark Coates, Rui Castro, Robert Nowak, Manik Gadhiok, Ryan King, Yolanda Tsang
June 2002 ACM SIGMETRICS Performance Evaluation Review, Proceedings of the
2002 ACM SIGMETRICS international conference on Measurement and
modeling of computer systems SIGMETRICS '02, Volume 30 Issue 1

Publisher: ACM Press

Full text available: "pdf(549.94 KB) Additional Information: full citation, abstract, references, citings

Network tomography is a process for inferring "internal" link-level delay and loss performance information based on end-to-end (edge) network measurements. These methods require knowledge of the network topology; therefore a first crucial step in the tomography process is topology identification. This paper considers the problem of discovering network topology solely from host-based, unicast measurements, without internal network cooperation. First, we introduce a novel delay-based measurement s ...

13 Topology discovery for large ethernet networks
Bruce Lowekamp, David O'Hallaron, Thomas Gross





August 2001 ACM SIGCOMM Computer Communication Review, Proceedings of the 2001 conference on Applications, technologies, architectures, and protocols for computer communications SIGCOMM '01, Volume 31 Issue 4

Publisher: ACM Press

Additional Information: full citation, abstract, references, citings, index Full text available: pdf(144.05 KB)

Accurate network topology information is important for both network management and application performance prediction. Most topology discovery research has focused on wide-area networks and examined topology only at the IP router level, ignoring the need for LAN topology information. Recent work has demonstrated that bridged Ethernet topology can be determined using standard SNMP MIBs; however, these algorithms require each bridge to learn about all other bridges in the network. Our approach to ...

14 A new approach of polling efficiency based on network topology

Jeong-Soo Han, Seong-Jin Ahn, Jin-Wook Chuna

July 2001 International Journal of Network Management, Volume 11 Issue 4

Publisher: John Wiley & Sons, Inc.

Full text available: Ppdf(133.08 KB) Additional Information: full citation, abstract, references, index terms

In this article we present significantly effective algorithms which allow the manager who already knows failure in one system or more in the managed network to choose which to manage. Using this information, we compare and analyze management efficiency affected by whether we are fully aware of the network topology or not, and carry out an experiment to generalize efficiency according to the location(s) of failed system(s). Copyright © 2001 John Wiley & Sons, Ltd ...

15 Design of logical topologies: a linear formulation for wavelength-routed optical networks with no wavelength changers



Rajesh M. Krishnaswamy, Kumar N. Sivarajan

April 2001 IEEE/ACM Transactions on Networking (TON), Volume 9 Issue 2

Publisher: IEEE Press

Full text available: pdf(257.34 KB) Additional Information: full citation, references, citings, index terms

Keywords: all-optical networks, linear program, network planning, topology design

16 Source-oriented topology aggregation with multiple QoS parameters in hierarchical



networks

Turgay Korkmaz, Marwan Krunz

October 2000 ACM Transactions on Modeling and Computer Simulation (TOMACS),

Volume 10 Issue 4

Publisher: ACM Press

Full text available: pdf(290,72 KB)

Additional Information: full citation, abstract, references, citings, index terms, review

In this paper, we investigate the problem of topology aggregation (TA) for scalable, QoSbased routing in hierarchical networks. TA is the process of summarizing the topological information of a subset of network elements. This summary is flooded throughout the network and used by various nodes to determine appropriate routes for connection requests. A key issue in the design of a TA scheme is the appropriate balance between compaction and the corresponding routing performance. The contrib ...

Keywords: ATM networks, PNNI, QoS-based routing, scalable routing, topology aggregation

17 New topology designs for the future expansion of the academic network of the Gulf countries



Rana Ejaz Ahmed, Saad Haj Bakry

January 1997 International Journal of Network Management, Volume 7 Issue 1

Publisher: John Wiley & Sons, Inc.

Full text available: pdf(356.94 KB) Additional Information: full citation, abstract, references, index terms

This article describes several new design aspects for the future expansion of GULFNET the research information network of the Gulf countries. The design methodology developed in the paper takes into account expected traffic growth, technology considerations and user demands. Several scenarios for future GULFNET topologies are presented and evaluated. © 1997 John Wiley & Sons, Ltd.

18 Self-stabilizing topology maintenance protocols for high-speed networks Hosame Abu-Amara, Brian A. Coan, Shlomi Dolev, Arkady Kanevsky, Jennifer L. Welch December 1996 IEEE/ACM Transactions on Networking (TON), Volume 4 Issue 6 Publisher: IEEE Press

Full text available: pdf(1.30 MB) Additional Information: full citation, references, citings, index terms

19 <u>Topologies for wavelength-routing all-optical networks</u> M. Ajmone Marsan, Andrea Bianco, Emilio Leonardi, Fabio Neri October 1993 IEEE/ACM Transactions on Networking (TON), Volume 1 Issue 5

Publisher: IEEE Press

Full text available: Pdf(1.71 MB) Additional Information: full citation, references, citings, index terms

A fast topology maintenance algorithm for high-bandwidth networks Hosame Abu-Amara June 1993 IEEE/ACM Transactions on Networking (TON), Volume 1 Issue 3

Publisher: IEEE Press

Full text available: pdf(1.34 MB) Additional Information: full citation, references, citings, index terms

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